



Department of Energy

Idaho Operations Office
1955 Fremont Avenue
Idaho Falls, ID 83401

February 25, 2004

INEEL CERCLA Administrative Record

SUBJECT: Approval to Proceed with Preparation of an Engineering Evaluation/Cost Analysis for the Idaho National Engineering and Environmental Laboratory, Accelerated Retrieval Project in Pit 4, of the Subsurface Disposal Area - (EM-ER-04-032)

Background:

The Radioactive Waste Management Complex (RWMC), located in the southwestern quadrant of the Idaho National Engineering and Environmental Laboratory (INEEL), encompasses a total of 72 ha (177 acres) and is divided, by function, into the following three separate areas: (1) the Subsurface Disposal Area (SDA), (2) the Transuranic Storage Area (TSA), and (3) the administration and operations area. The SDA is the original landfill established in 1952 for the shallow land disposal of solid radioactive waste. The RWMC, including the SDA, is undergoing remediation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC § 9601 et seq.) in accordance with the *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory* (DOE-ID 1991). The Federal Facility Agreement and Consent Order designates the RWMC as Waste Area Group 7, which is further subdivided into 13 operable units (OU). Operable Unit 7-13/14 is the combined OU for the comprehensive remedial investigation and feasibility study evaluating SDA contamination, risk, and associated remedial alternatives.

The SDA is a radioactive waste landfill with shallow subsurface disposal units consisting of pits, trenches, and soil vaults. Disposals of transuranic (TRU) and mixed waste, mostly from the Rocky Flats Plant in Colorado, were allowed through 1970. The buried Rocky Flats Plant TRU waste is located primarily in disposal Pits 2 through 6, 9 through 12, and Trenches 1 through 10. Trenches 11-15 also may contain Rocky Flats Plant TRU waste. Contaminants in the SDA include hazardous chemicals, remote-handled fission and activation products, and TRU radionuclides.

The U.S. Department of Energy Idaho Operations Office (NE-ID), in consultation with the Idaho Department of Environmental Quality and the U.S. Environmental Protection Agency, Region 10, has concluded that it is appropriate to consider a non-time-critical removal action (NTCRA) to retrieve limited portions of TRU waste within Pit 4 in support of the comprehensive remediation of OU 7-13/14. This NTCRA is referred to as the Accelerated Retrieval Project. The NTCRA action area of focus includes approximately 1/2 acre of the eastern section of Pit 4. The CERCLA process requires preparation and public review of an engineering evaluation and cost analysis (EE/CA) before preparation of the action memorandum that will document official selection of the NTCRA alternative and associated details that support the official selection.

Threat to Public Health, Welfare, or the Environment:

Based on existing site characterization and risk information, NE-ID concluded that source materials located within Pit 4 contain hazardous substances that have been released to the surrounding environment, and that the source materials pose a threat of continuing future release without remedial action (Holdren et al. 2002). Further, NE-ID concludes that the proposed NTCRA is consistent with relevant National Contingency Plan criteria (40 CFR 300.415[b][2][iii]) considering that the area of focus contains “Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release” (40 CFR 300).

If no action were taken (i.e., absent institutional controls or other remedial action), existing OU 7-13/14 risk documentation indicates there may be a potential future threat to public health, welfare, and the environment from release of hazardous substances previously disposed of in Pit 4.

Enforcement Actions:

No enforcement actions are related to the Accelerated Retrieval Project.

Proposed Project and Cost:

The primary objective of the proposed NTCRA is to retrieve TRU waste located within Pit 4. Following retrieval, waste will be placed in new containers, staged in an interim storage area, and subsequently prepared, where possible, for transfer to the Waste Isolation Pilot Plant (WIPP) repository in New Mexico. Additional project scope includes return of materials containing TRU constituents at concentrations below the TRU waste definitional threshold of 100 nCi/g to the original excavation following retrieval, initial characterization, and temporary staging in the interim storage area.

Based on the focused objectives, alternatives to be considered in the EE/CA are limited to the No Action alternative and the source retrieval of TRU waste (i.e., in situ treatment options are not included). The No Action alternative is included in accordance with U.S. Environmental Protection Agency requirements for comparative purposes and is limited to a 15-year, interim monitoring scenario at the SDA. The No Action Alternative involves monitoring various media (i.e., vadose zone vapor and moisture, groundwater, and air) for this interim period until the monitoring program developed under the OU 7-13/14 Record of Decision is implemented.


The preliminary cost estimate for retrieval and subsequent management of waste from Pit 4 is approximately \$300 million. This includes costs for design, construction, facility operations, and WIPP certification for acceptance of the generated waste streams. A large fraction of this estimate is due to the unproven process for certification of “newly generated waste,” and the contingency needed to capture these costs. The NTCRA is estimated to require up to 4 years to complete. It is noted that the interim monitoring program associated with the No Action Alternative would also continue to be implemented in conjunction with this alternative.

The estimated total monitoring cost for the No Action alternative is \$3.3 million.

Approval to Conduct Engineering Evaluation and Cost Analysis:

Approval is hereby given by NE-ID to conduct an EE/CA for the Accelerated Retrieval Project, NTCRA of Pit 4 of the SDA. The NTCRA and associated activities will be conducted in accordance with the relevant requirements of the National Contingency Plan and pursuant to Section 104 of CERCLA, as provided by Section 2.(d) of Executive Order 12580, "Superfund Implementation" (1987). Kathleen E. Hain is designated as the spokesperson. The completed EE/CA shall be made available for public review and comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa A. Green". The signature is fluid and cursive, with the first name "Lisa" being more prominent.

Lisa A. Green, Deputy Assistant Manager
Environmental Management

References:

40 CFR 300, 2003, "National Oil and Hazardous Substances Pollution Contingency Plan," *Code of Federal Regulations*, Office of the Federal Register, November 2003.

42 USC § 9601 et seq., 1980, "Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA/Superfund)," *United States Code*, December 11, 1980.

DOE-ID, 1991, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, Administrative Docket No. 1088-06-29-120, U.S. Department of Energy Idaho Operations Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, December 4, 1991.

Executive Order 12580, 1991, "Superfund Implementation," (January 23, 1987), 52 FR 2923, as amended by Executive Order 12777, 56 FR 54757, October 18, 1991.

Holdren, K. Jean, Bruce H. Becker, Nancy L. Hampton, L. Don Koeppen, Swen O. Magnuson, T. J. Meyer, Gail L. Olson, and A. Jeffrey Sondrup, 2002, *Ancillary Basis for Risk Analysis of the Subsurface Disposal Area*, INEEL/EXT-02-01125, Rev. 0, Idaho National Engineering and Environmental Laboratory, September 2002.

Public Law, 1992, "WIPP Land Withdrawal Act," Public Law 102-579, October 30, 1992.